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> Casio FX-82ES Plus-2 Scientific Calculator User Manual

## Casio Fx-82ESPLUS-2

# Casio FX-82ES Plus-2 Scientific Calculator User Manual

Model: Fx-82ESPLUS-2

## INTRODUCTION

The Casio FX-82ES Plus-2 Scientific Calculator is designed to support a wide range of mathematical and scientific calculations. Featuring a natural display (Natural-V.P.A.M.) and a dot matrix display, it presents mathematical expressions and results as they appear in textbooks, enhancing comprehension and ease of use. This calculator is equipped with 252 functions, making it suitable for various academic and professional applications.



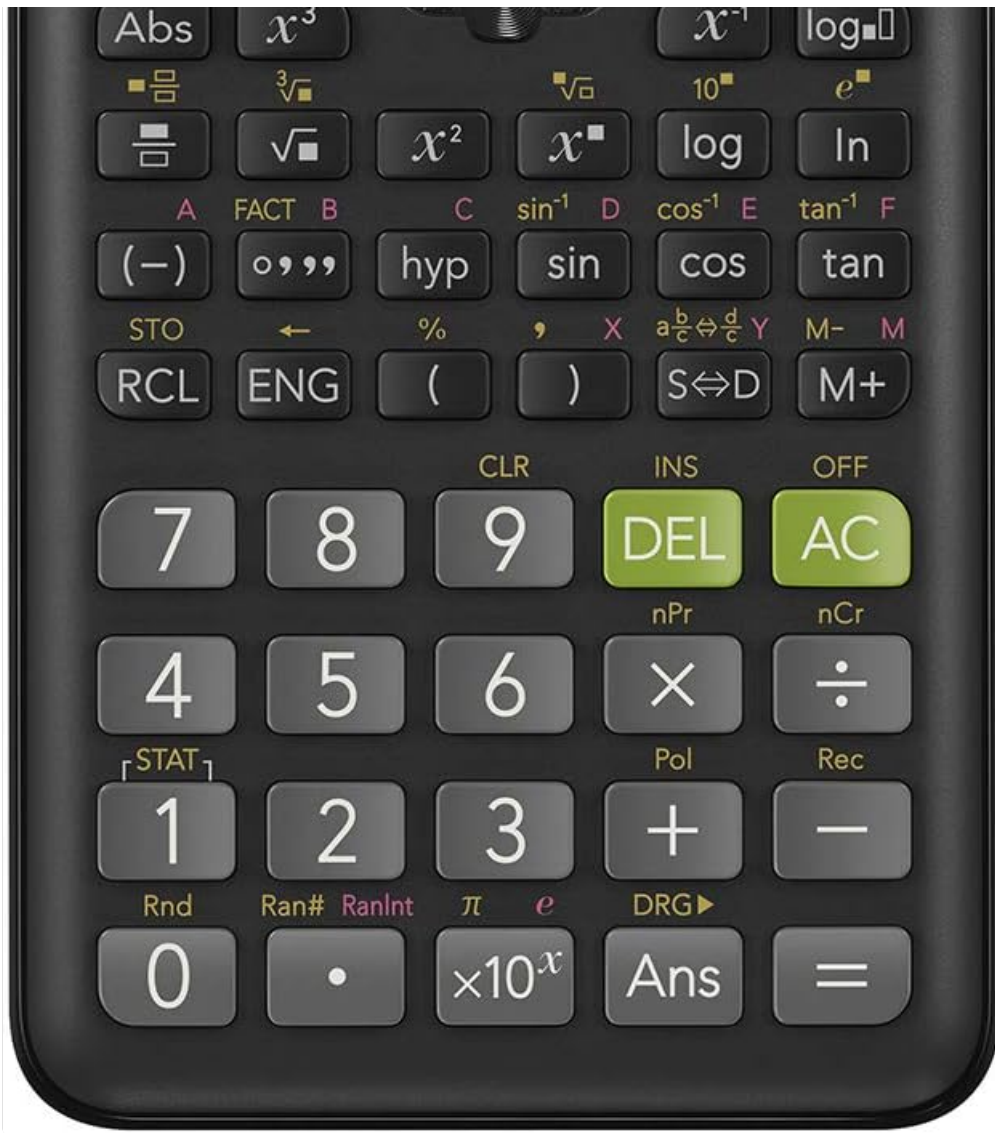


Image: Front view of the Casio FX-82ES Plus-2 Scientific Calculator, showing its display and key layout.

## SETUP

### Battery Installation

The Casio FX-82ES Plus-2 calculator operates on one AAA battery, which is included. To ensure proper functionality, follow these steps for battery installation or replacement:

1. Ensure the calculator is turned off.
2. Locate the battery compartment cover on the back of the calculator.
3. Slide the cover off in the direction indicated by the arrow.
4. Insert the AAA battery, ensuring the positive (+) and negative (-) terminals are aligned correctly according to the diagram inside the compartment.
5. Replace the battery compartment cover, sliding it firmly until it clicks into place.
6. Press the **ON** button to power on the calculator. If the display does not appear, recheck the battery orientation or replace with a new battery.



Image: Angled view of the Casio FX-82ES Plus-2 Scientific Calculator, showing the protective slide cover.

## OPERATING INSTRUCTIONS

### Basic Operations

To perform basic arithmetic, simply input the numbers and operators. The calculator supports 24 levels of parenthesis for complex expressions.

- **Power On/Off:** Press **ON** to turn on. Press **SHIFT** then **AC** (OFF) to turn off.
- **Clear Entry:** Press **DEL** to delete the last entered digit. Press **AC** to clear all calculations and reset the display.
- **Natural Display (V.P.A.M.):** Input expressions as they are written, such as fractions (**a b/c**) and square roots ( $\sqrt{\quad}$ ). The display

will show them in a natural textbook format.

## Scientific Functions

The calculator provides 252 built-in functions for various scientific and engineering calculations.

- **Trigonometric Functions:** Use **sin**, **cos**, **tan** for sine, cosine, and tangent. Inverse functions are accessed via **SHIFT**.
- **Hyperbolic Functions:** Access **hyp** for hyperbolic sine, cosine, and tangent.
- **Exponents and Logarithms:** Use **x<sup>2</sup>**, **x<sup>3</sup>**, **x<sup>n</sup>**, **log**, **ln**.
- **Fractional Calculations:** Perform calculations with fractions using the dedicated fraction key.
- **Percentage Calculations:** Utilize the percentage function for quick calculations.
- **Angular Unit Conversions:** Convert between degrees (Deg), radians (Rad), and grads (Gra) using **SHIFT + MODE SETUP**.
- **Coordinate Conversions:** Convert between polar (Pol) and rectangular (Rec) coordinates.

## Statistical Calculations

The calculator supports various statistical computations for grouped and ungrouped data.

- **Data Entry:** Enter data in STAT mode.
- **Summations:** Calculate sums of values.
- **Standard Deviations:** Compute standard deviations for both grouped and ungrouped data.
- **Regression Analysis:** Perform linear and other regression analyses.
- **Permutations and Combinations:** Use **nPr** and **nCr** for permutation and combination calculations.

## MAINTENANCE

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Proper care and maintenance will extend the life of your Casio FX-82ES Plus-2 calculator.

- **Cleaning:** Wipe the calculator with a soft, dry cloth. For stubborn dirt, a slightly damp cloth can be used, but ensure no moisture enters the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the calculator in a cool, dry place away from direct sunlight and extreme temperatures. Use the included slide cover to protect the keys and display from dust and scratches.
- **Battery Life:** If the display becomes dim or erratic, replace the AAA battery. Remove the battery if the calculator will not be used for an extended period to prevent leakage.
- **Avoid Impact:** Do not drop or subject the calculator to strong impacts, as this can damage internal components or the display.

## TROUBLESHOOTING

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### Common Issues and Solutions

- **Calculator does not turn on:**
  - Check battery installation. Ensure the AAA battery is inserted with correct polarity (+/-).
  - Replace the battery with a new one.
- **Display is dim or blank:**
  - The battery may be low. Replace the AAA battery.
  - Adjust display contrast if available (refer to specific key combinations in the full manual, if applicable, otherwise omit).
- **Incorrect calculation results:**
  - Check the current mode setting (e.g., DEG/RAD/GRA for angles). Press **MODE SETUP** to change.

- Ensure all previous calculations are cleared by pressing **AC**.
  - Verify the input expression for correct syntax and parenthesis usage.
  - Perform a calculator reset: Press **SHIFT** then **CLR** (RESET), then select "All" to clear all settings and memory.
- **Keys are unresponsive:**
    - Clean around the keys to remove any debris.
    - Ensure the calculator has not been exposed to liquids.

## SPECIFICATIONS

<b>Model Number</b>	Fx-82ESPLUS-2
<b>Dimensions (L x W x H)</b>	6.38 x 3.03 x 0.55 inches (162 x 77 x 11 mm)
<b>Weight</b>	7.4 ounces
<b>Power Source</b>	1 x AAA Battery (included)
<b>Functions</b>	252 Functions
<b>Display Type</b>	Natural Textbook Display (Natural-V.P.A.M.), Dot Matrix
<b>Color</b>	Black
<b>Manufacturer</b>	CASIO



Image: Casio FX-82ES Plus-2 Scientific Calculator with approximate dimensions indicated.

## WARRANTY AND SUPPORT

For information regarding warranty coverage, product support, and service, please refer to the official Casio website or contact Casio customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

You can find more information and support resources on the official Casio website:

[Visit Casio Calculators Official Website](#)

